REMARKS

Claims 1, 2, and 4-11 are pending in this application. By this Amendment, Applicant amends claim 1, and cancels claim 12.

Claims 1, 2 and 4-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fima et al. (U.S. 5,610,334). Applicant respectfully traverses the rejection of claims 1, 2, and 4-12.

Claim 1 has been amended to recite:

"An angular velocity sensor comprising:
a substrate;
an oscillator disposed on the substrate so as to be displaceable relative to the substrate; and
an impact damping mechanism disposed on the substrate for damping the effect on oscillations of the oscillator from an impact to the substrate;
a frame for supporting the oscillator;
a support member for supporting the frame;
an oscillator support beam connecting the oscillator to the frame; wherein
said impact damping mechanism is defined by a single unitary member including a portion for damping in a Y-direction and a portion for damping in an X-direction which is substantially perpendicular to the Y-direction; and
said single unitary member connects the frame with the support member." (emphasis added)

Claim 2 recites:

"An angular velocity sensor comprising:
a substrate;
an impact damping mechanism disposed on the substrate for damping an impact applied to the substrate;
an oscillator supported on the substrate by at least one oscillator support beam, so as to be displaceable in two directions that are substantially parallel to the substrate and substantially orthogonal to each other;
an oscillation-generating mechanism for oscillating the oscillator in an oscillating direction that is substantially parallel to one of the two directions; and

an angular-velocity detecting mechanism for detecting a displacement of the oscillator as an angular velocity when the oscillator is displaced in a detecting direction that is substantially orthogonal to the oscillating direction,

wherein the impact damping mechanism damps an impact to the substrate along at least one direction of the oscillating direction and the detecting direction so as to prevent the impact from being transferred to the oscillator from the substrate;

the impact damping mechanism includes **a frame support beam disposed on the substrate and a frame supported on the substrate by the frame support beam** so as to be displaceable In at least one of the oscillating direction and the detecting direction, and wherein the oscillator is supported on the inside of the frame via the oscillator support beam such as to be displaceable in both of the oscillating direction and the detecting direction; and

the substrate is provided with a support section arranged outside the frame so as to surround the frame for supporting the frame via the frame support beam and wherein the impact damping mechanism includes a damping clearance portion arranged between the support section and the frame for compressing a gas when the frame is displaced." (emphasis added)

Claim 4 has been amended to recite:

"An angular velocity sensor comprising:

a substrate;

an impact damping mechanism disposed on the substrate for damping an impact applied to the substrate;

an oscillator supported on the substrate by at least one oscillator support beam, so as to be displaceable in two directions that are substantially parallel to the substrate and substantially orthogonal to each other;

an oscillation-generating mechanism for oscillating the oscillator in an oscillating direction that is substantially parallel to one of the two directions; and

an angular-velocity detecting mechanism for detecting a displacement of the oscillator as an angular velocity when the oscillator is displaced in a detecting direction that is substantially orthogonal to the oscillating direction,

wherein the impact damping mechanism damps an impact to the substrate along at least one direction of the oscillating direction and the detecting direction so as to prevent the impact from being transferred to

> the oscillator from the substrate;
>
> the impact damping mechanism includes **a frame support beam disposed on the substrate and a frame supported on the substrate by the frame support beam** so as to be displaceable in at least one of the oscillating direction and the detecting direction, and wherein the oscillator is supported on the inside of the frame via the oscillator support beam so as to be displaceable in both of the oscillating direction and the detecting direction; and
>
> the oscillator, the oscillator support beam, and the frame have an entire resonant frequency which is set to be about $1/\sqrt{2}$ times more than or less than a resonant frequency of the oscillator." (emphasis added)

The Examiner alleged that Fima et al. teaches all of the features recited in the present claimed invention, except a single unitary member for damping in the X and Y-directions. The Examiner has further alleged that "a one-piece construction, in place of separate elements fastened together, is a design consideration clearly within the preview of one having ordinary skill in the art." Thus, the Examiner concluded that it would have been obvious to "provide Fima et al. with a single unitary member, so that the device damping means [has] a high resistivity to vibrations in two orthogonal directions." Applicant respectfully disagrees.

Each of claims 1, 2 and 4 recite the following separate and distinct elements:

1. a substrate;
2. an oscillator;
3. an impact damping mechanism;
4. a frame for supporting the oscillator;
5. a support member for supporting the frame; and
6. an oscillator support beam connecting the oscillator to the frame.

In contrast, at best, Fima et al. teaches (1) a substrate 21, (2) an oscillator 1, (3) a frame 8, and (4) oscillator support beams (suspensions 3-6) which connect the oscillator 1 to the frame 8. Fima et al. fails to teach or suggest any additional elements which could be fairly construed as an impact damping mechanism or a support member as recited in the present claimed invention.

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Alternatively, if the Examiner alleges that the suspensions 3-6 of Fima et al. correspond to the impact damping mechanism recited in the present claimed invention, then Fima clearly fails to teach or suggest **any** oscillator support beams which connect the oscillator to the frame or a support member as recited in the present claimed invention. Applicant is reminded that a single element disclosed in the prior art **cannot** be used to teach or suggest two separately and distinctly recited elements in a claim.

The Examiner cannot properly allege that a single element teaches two or more of Applicant's claimed elements. Also, Fima et al. completely fails to teach or suggest an impact damping mechanism or a support member. It is impermissible within the framework of § 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. In re Wesslau, 353 F .2d 238, 241, 147 USPQ 391 (CCPA 1965).

In addition, Fima et al. fails to teach or suggest that the suspensions 3-6 perform **any** damping function, and certainly fails to teach or suggest "an impact damping mechanism disposed on the substrate **for damping an impact applied to the substrate**" (emphasis added) as recited in the present claimed invention. In contrast, Fima et al. merely discloses that the suspension "are sized to have high flexibility and to be liable to vibrate in traction-compression mode. Thus, when the vibrating mass is urged along direction x, the suspensions 3 and 4 are excited in traction-compression mode and the suspensions 5 and 6 do not impair the motion. Conversely, for vibrations along direction y, it is the suspensions 5 and 6 that are urged in traction-compression mode." Thus, Applicant respectfully submits that the suspensions 3-6 of Fima et al. cannot be fairly construed as an impact damping mechanism as recited in the present claimed invention.

Accordingly, Applicant respectfully submits that Fima et al. fails to teach or suggest the unique combination and arrangement of elements recited in claims 1, 2, and 4 of the present application.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 1, 2 and 4 are allowable. Claims 5-11 depend upon claims 1, 2, and 4 and are therefore allowable for at least the reasons that claims 1, 2, and 4 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a Two-month extension of time, extending to October 22, 2003, the period for response to the Office Action dated May 22, 2003.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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